



## Louisiana Department of Environmental Quality *Source Water Assessment Program*

### *Potential Susceptibility Assessment of a Mississippi River Source of Public Drinking Water*

#### **I. Basis for Assessment**

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water protection area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential sources and their rankings used to develop the assessment is also attached. If you have any questions regarding this assessment, please contact DEQ, Environmental Evaluation Division at 225-765-0578. For in depth information about the Source Water Assessment Program please visit the following LDEQ website: <http://www.deq.state.la.us/evaluation/aeps/swap/index.htm>.

#### **A. Background**

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Act. This Phase I assessment is based on a land use inventory of the delineated protection area. A Phase II assessment will also include sensitivity factors associated with the intake and source water. The Phase II assessment will be conducted upon completion of all source water assessments for systems using the Mississippi River as a drinking water source.

#### **B. Level of Accuracy and Purpose of the Assessment**

Since there are over 1900 public water supply systems in Louisiana, there is limited time and resources to accomplish these assessments. All assessments must be completed by May 6, 2003. Different types of assessments are being performed for groundwater sources, surface water sources other than the Mississippi River, and for the systems that use the Mississippi River as their source of drinking water. An in-depth, site-specific investigation of each significant potential source of contamination was not possible. Therefore, **this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in any water system.**

## **II. Methodology**

### **A. Identification of Significant Potential Sources of Contamination**

For this Phase I assessment significant potential sources of contamination (SPSOCs) within the delineated protection area were inventoried. An SPSOC is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The SPSOC locations were obtained by field surveys and from available databases. The list of significant potential sources and their rankings used to develop the assessment are shown on the next two pages.

The delineated protection area, or Source Water Protection Area (SWPA), is divided into a critical and a non-critical area. The critical area is that area along both sides of the Mississippi River from the water intake upstream to the St. Francisville Ferry Landing. Where the river is leveed, the critical area exists only along the riverside of the levee. A field inventory was conducted within the critical area to identify SPSOCs. Pipeline crossings within the critical area were identified by means of a database search. The non-critical area is made up of that portion of the Mississippi River north of the St. Francisville Ferry Landing up to the Arkansas state line. It also includes the watersheds along the unleveed portion of the river that drain to it, five miles from the river up each watershed. This area was inventoried for SPSOCs by a database search. The inventory of the non-critical area is used only for identification purposes and is not used in determining the vulnerability of the system to SPSOCs.

**SIGNIFICANT POTENTIAL SOURCES OF CONTAMINATION AFFECTING THE  
MISSISSIPPI RIVER TO BE GROUND TRUTHED**

**Higher Risk**

Above Ground Storage Tank  
Agriculture-Chemical-  
Formulation/Distribution  
(pesticide/insecticide)  
Barge Fleeting  
Barge Repair/Cleaning

Bridges and Bridge Abutments  
Chemical Plant  
Fuel Docks  
Outfall  
Petroleum (includes bulk plants)

**Medium Risk**

Marine Salvage  
Military Facility  
Promiscuous Dump

**Lower Risk**

Anchorage  
Asphalt Plant  
Dry Bulk Loading  
Grain Elevator  
Hospital  
Landing - Ferry  
Landing - Misc.  
Launch Service  
Locks  
Mooring

Nuclear Plant  
Paper Mill  
Pipeline Compressor Stations  
Port Facility  
Power Plant  
Sand and Gravel Pits  
Ship Building Operations  
Ship Yard  
Stevedore Dock

**SIGNIFICANT POTENTIAL SOURCES OF CONTAMINATION AFFECTING THE  
MISSISSIPPI RIVER TO BE IDENTIFIED BY DATABASES**

**Higher Risk**

Chemical/Industrial Plants  
Concentrated Animal Feeding Operations (CAFOs)  
Military Facilities  
Pipeline Crossings  
Remediation Sites (Superfund or Inactive/Abandoned Site)  
TRI Sites (Toxic Release Inventory)

**Medium Risk**

Airports  
Airstrips  
Mines  
RCRA Sites (Resource Conservation & Recovery Act)

**Lower Risk**

Cemeteries  
Hospitals  
Injection Wells (all classes)  
Sand & Gravel Pits  
Sewage Disposal Ponds (Oxidation Ponds)  
Solid Waste Disposal Facilities (Landfills)  
Tailings Ponds

**Line Potential Sources of Contamination**

**Railroads, Pipelines, Roads, and Hazardous Waste Transportation Routes are Line Potential Sources of Contamination subject to spills and leaks. They will be rated based on a pertinent number per square mile in the delineated area.**

**Oil & Gas Wells**

**Oil & Gas Wells will be reported as the number of wells per square mile in BOTH the critical and non-critical areas.**

\* Other important but not quantifiable considerations at this time include natural occurrences, saltwater intrusion, silviculture, and recreational use.

It should be noted that some of these facilities could be classified under more than one category. For example, a Chemical/Industrial Plant is also a RCRA facility and is also likely included in the Toxic Release Inventory (TRI). However, each facility will only be classified **once** and counted once. If risk rankings are different for each applicable classification the highest ranking will be used.

## **B. Potential for Contamination by Significant Potential Sources of Contamination Identified on the Map**

Potential contamination sources are facilities that use, produce, or store contaminants of concern (those regulated under the Safe Drinking Water Act) which, if improperly managed, could find their way into a source of public drinking water. **It is important to understand that a release may never occur from a SPSOC provided they are using best management practices. Many SPSOC are regulated at the federal level, state level, or both to reduce the risk of a release. Facility-specific management practices are not taken into account in estimating risks.** There are a number of methods that water systems can use to work cooperatively with SPSOC. These often involve educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply intake. It is also important to note the contaminants of concern listed for each SPSOC are not intended to be comprehensive, but rather those most commonly associated with the SPSOC. In addition, any specific SPSOC may actually have none, some, or more types of contaminants associated with it than what is listed.

## **C. Ranking of Significant Potential Sources of Contamination**

Significant potential sources of contamination were ranked as high, medium, or low risk according to the following considerations: 1) Sources of surface water contamination in the past, 2) Sources of surface water contamination in the past that have caused contamination of public water supply intakes, 3) Review of ranking schemes in the literature from other states and the U.S. EPA, and 4) Experience of DEQ staff. An important consideration is the proximity of significant potential sources to the intake. Potential contamination sources located in closest proximity to the intake will pose the greatest threat. The further away a significant potential source of contamination is located from the intake, the lower the risk to the intake, even if the SPSOC is considered to be a high-risk activity or facility. This is because dilution and degradation of contaminants increase with distance. Most public surface water supply contamination incidents in the State of Louisiana have resulted from spills, accidents, or pesticide application.

## **D. Determination of Intake and Source Sensitivity**

Since surface water sources are open to the atmosphere, they are considered inherently sensitive. However, data collected from each system during the source water assessments will be used to develop a comparative sensitivity ranking among surface water systems. The overall sensitivity ranking will be derived considering the structural integrity of the intake (inferred from the age of the intake). The older the intake is, the higher the sensitivity.

## **III. Prioritization for Protection Activities**

This susceptibility assessment should be used as a basis for determining appropriate new protection measures or reevaluating current protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial landuses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. It is the intent of LDEQ to begin protection activities when the Source Water Assessment Program is completed. However, local water supplies or communities may take steps to address SPSOCs of particular concern by contacting the appropriate state regulatory agency shown in the List of Regulatory Contacts below. A comparative potential susceptibility analyses will be conducted upon completion of **all** assessments to determine a relative risk ranking among all Mississippi River public water supply systems. The results of this analysis will be used to develop a prioritization scheme for implementing protection activities. The comparison is based on the intake and source sensitivity analysis and the density of potential sources of contamination for each intake.

## **DISCLAIMER**

The Source Water Assessment Report is designed to provide access to certain public information in the custody of the Louisiana Department of Environmental Quality (LDEQ). No warranty either express or implied what-so-ever extends to the State of Louisiana, its employees, contractors, subcontractors or their respective employees relating to merchantability or fitness for any particular purpose. There is no warranty or legal liability what-so-ever relating to the accuracy, completeness or the use of any information, apparatus, or process. There is no representation that the use of the material or information contained herein will not infringe on private property rights.

## POTENTIAL CONTAMINATION SOURCE CONTROL CONTACTS

<u>Source</u>	<u>Contact</u>
Active And Inactive Hazardous Waste Sites- Operating Facility	Department of Environmental Quality Remediation Services Division Post Office Box 82178 Baton Rouge, LA 70884-2178 (225) 765-0355 Environmental Manager
Waste Impoundments of Oil & Gas Industry	Department of Natural Resources Oilfield Waste & Underground Injection Wells & Mining Division Post Office Box 94275 Baton Rouge, LA 70804-9275 (225) 342-5524 Division Manager
Pipelines for Natural Gas, Crude Oil, & other Fluids	Department of Natural Resources Pipelines Division Post Office Box 94275 Baton Rouge, LA 70804-9275 (225) 342-5505 Chief of Pipeline Safety or call <b>collect</b> the company listed on pipeline marker
Inactive & Abandoned Sites	Department of Environmental Quality Remediation Services Division Post Office Box 82178 Baton Rouge, LA 70884-2178 (225) 765-0355 Environmental Manager
Underground Storage Tanks	Department of Environmental Quality Remediation Services Division Post Office Box 82178 Baton Rouge, LA 70884-2178 (225) 765-0355 Environmental Manager
Underground Injection	Department of Natural Resources Oilfield Waste and Underground Injection Wells & Mining Division Post Office Box 94275 Baton Rouge, LA 70804-9275 (225) 342-5515 Director, Injection and Mining

Abandoned Wells other than Water Wells	Department of Natural Resources Post Office Box 94275 Baton Rouge, LA 70804-9275 (225) 342-5540 Manager of Oilfield Site Restoration
Abandoned Water Wells	Department of Transportation and Development Water Resources Section Post Office Box 94245 Baton Rouge, LA 70804-9245 (225) 379-1434 Chief Of Water Resources
Agriculture	Department of Agriculture and Forestry Post Office Box 3596 Baton Rouge, LA 70821-3596 (225) 925-3768 Director of the Pesticides and Environmental Programs
Drinking Water	Department of Health and Hospitals 6867 Bluebonnet Blvd. Baton Rouge, LA 70810 (225) 765-5038 Chief Engineer
Solid Waste	Department of Environmental Quality Remediation Services Division Post Office Box 82178 Baton Rouge, LA 70884-2178 (225) 765-0355 Environmental Manager
Surface Discharge	Department of Environmental Quality Office of Environmental Compliance Surveillance Division Post Office Box 82215 (225) 765-0634 Baton Rouge, La 70884-2215 Administrator
Citizen 24-hour Hotline (Complaints) (Spills)	Department of Environmental Quality (225) 342-1234
Customer Information Number	(888) 763-5424



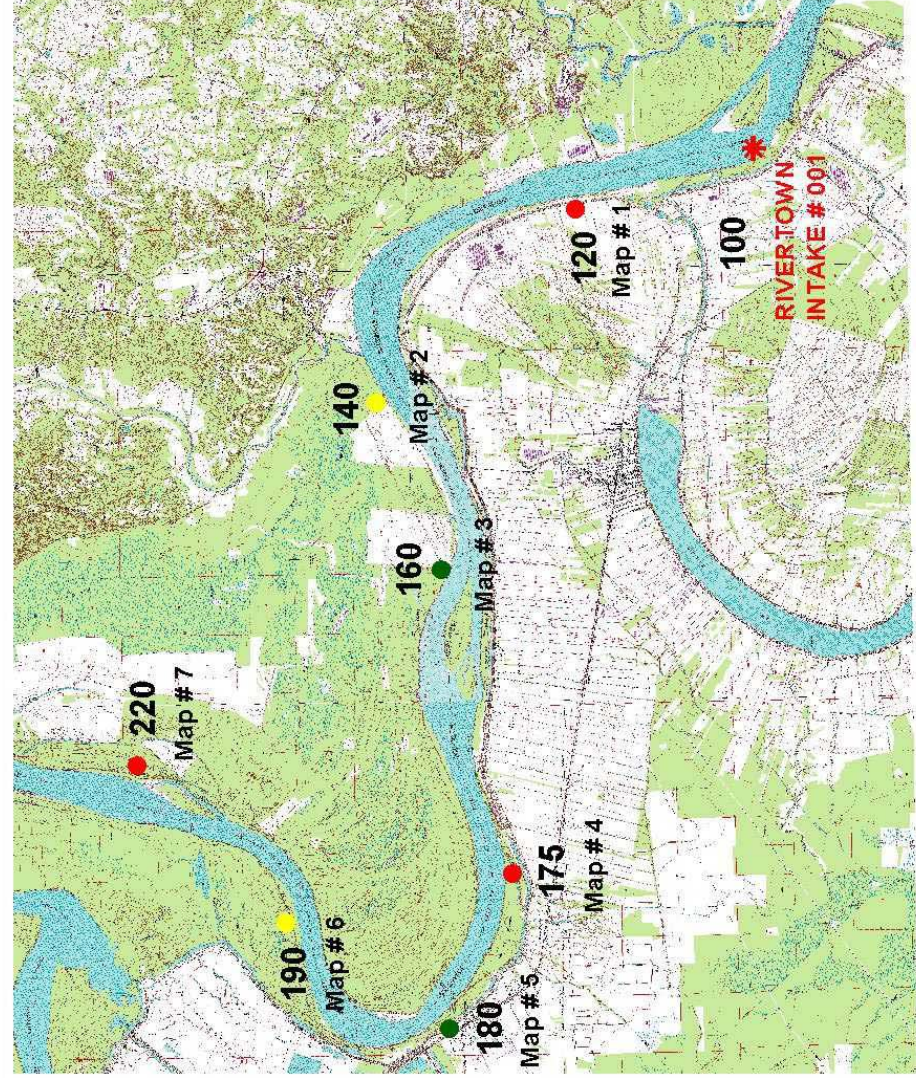
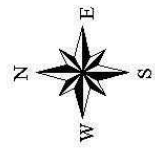
Source Water Assessment

Department of Environmental Quality  
Environmental Evaluation Division  
Post Office Box 82178  
Baton Rouge, LA 70884-2178  
(225) 765-0578  
Geologist Supervisor

**LOUISIANA DEPARTMENT OF  
ENVIRONMENTAL QUALITY**

**POTENTIAL SUSCEPTIBILITY  
ASSESSMENT OF THE  
RIVERTOWN WATER SYSTEM**

-  INTAKE
-  HIGH RISK PSOC
-  MEDIUM RISK PSOC
-  LOW RISK PSOC
- 160** RIVER MILE MARKER



## Source Water Assessment Results

**Water System Name:** Rivertown, LA

**PWS ID Number:** 1037777

**Water Source:** Mississippi River

**Date of Assessment:** August 31, 2000

**Vulnerability Analysis – based on the types and numbers of significant potential sources of contamination (SPSOC) and their distances from the surface water source.**

<b>Intake</b>	<b># SPSOC W/in 0 – 33 River Miles Of Intake</b>	<b># SPSOC W/in 33 – 66 River Miles Of Intake</b>	<b># SPSOC W/in 66 – 99 River Miles Of Intake</b>	<b># SPSOC W/in 99 – 132 River Miles Of Intake</b>	<b># SPSOC &gt;132 River Miles of Intake</b>
001	High Risk – 1 Medium Risk – 0 Low Risk – 0	High Risk – 0 Medium Risk – 1 Low Risk – 1	High Risk – 1 Medium Risk – 1 Low Risk – 1	High Risk – 1 Medium Risk – 0 Low Risk – 0	High Risk – 0 Medium Risk – 0 Low Risk – 0

Source Water Protection Area Field Inventory of Critical Area RIVERTOWN WATER SYSTEM						
Map No.	SPSOC Name	RIVER MILE	Phone	SPSOC Type	Risk Rank	Contaminants of Concern
<b>DHH INTAKE ID: 001</b>						
1	ABC Barge Fleeting	120	(555) 555-5555	Barge Fleeting	High	FUEL, OILS, LUBRICANTS, SEWAGE FROM IMPROPERLY OPERATED MARINE SANITATION DEVICES, VARIOUS HAZARDOUS AND NONHAZARDOUS MATERIAL
2	Harry's Marine Salvage	140	(555) 555-5555	Marine Salvage	Medium	ANY WASTE FROM VARIOUS MARITIME ACTIVITIES (SITE SPECIFIC)
3	Crown Victoria Paper	160	(555) 555-5555	Papermill	Low	METALS, ACIDS, MINERALS, SULFIDES, VARIOUS HAZARDOUS AND NONHAZARDOUS CHEMICALS, ORGANIC SLUDGES
4	CBA Fuel Dock	175	(555) 555-5555	Fuel Dock	High	FUEL, OILS, LUBRICANTS, SEWAGE FROM IMPROPERLY OPERATED MARINE SANITATION DEVICES
5	Gravel Pit	180	(555) 555-5555	Sand Gravel Pit	Low	FUEL, OILS, LUBRICANTS, SEWAGE FROM IMPROPERLY OPERATED MARINE SANITATION DEVICES, AUTOMOTIVE WASTES, SURFACE RUNOFF
6	Promiscuous Dump	190	(555) 555-5555	Promiscuous Dump	Medium	SOLVENTS, PHENOLS, OILS & GREASE, METALS, ACIDS, BASES
7	Mississippi River Bridge	220	(555) 555-5555	Bridge / Abutment	High	AUTOMOTIVE WASTES, SPILLS OF FUEL OR VARIOUS CHEMICALS, HEAVY METALS

Source Water Protection Area Database Inventory of Non-Critical Area MANY WATER SYSTEM		
SPSOC Type	Risk Value	Count of SPSOCs
<b>DHH INTAKE ID: 001</b>		
Concentrated Animal Feeding Operation Site	High	0
Toxic Release Inventory Site	High	1
Louisiana Permitted Discharge Elimination System	High	0
Confirmed Remediation Site	High	2
Military Facility	High	0
Resource Conservation and Recovery Act Site	Med	0
Airstrips	Med	2
Airport	Med	1
Solid Waste Disposal Site	Low	0
Sewage Disposal Pond	Low	0
Tailings Pond	Low	0
Sand and/or Gravel Pit	Low	1
Hospital	Low	1
Cemetery	Low	6